

**WE CLAIM:**

1           1.       A biometric data card, comprising:  
2                    an image sensor for capturing an image of a biometric feature of a user of the  
3 biometric data card and producing first image data representing the image;  
4                    a memory operable to store second image data; and  
5                    a processor in communication with said image sensor and said memory, said  
6 processor operable to perform a comparison of the first image data with the second image  
7 data, and, to generate, in response to the comparison, authentication information  
8 representative of an authentication of the user.

1           2.       The biometric data card of Claim 1, further comprising:  
2                    an interface operable to transmit the authentication information from the  
3 biometric data card to a terminal.

1           3.       The biometric data card of Claim 2, wherein said interface comprises a contact  
2 pad operable to form an electrical connection to the terminal, said contact pad being further  
3 operable to transmit the authentication information from the biometric data card to the  
4 terminal via the electrical connection.

1           4.       The biometric data card of Claim 2, wherein said processor is further operable  
2 to determine adjustment information for the terminal to use in capturing an additional image  
3 of the biometric feature and to transmit the adjustment information to the terminal via the  
4 interface.

1           5.       The biometric data card of Claim 1, further comprising:  
2           an optical element for transferring the image to said image sensor.

1           6.       The biometric data card of Claim 1, wherein said processor is further operable  
2           to extract first feature characteristics from the first image data and second feature  
3           characteristics from the second image data, and to compare the first feature  
4           characteristics to the second feature characteristics to determine the authentication  
5           information.

1           7.       The biometric data card of Claim 1, wherein:  
2                    said second image data comprises second feature characteristics; and  
3                    said processor is further operable to extract first feature characteristics from  
4           the first image data and to compare the first feature characteristics to the second feature  
5           characteristics to determine the authentication information.

1           8.       The biometric data card of Claim 1, wherein said image sensor is a CMOS  
2           image sensor.

1           9.       The biometric data card of Claim 1, wherein said image sensor is a CCD  
2           image sensor.

1           10.      The biometric data card of Claim 1, wherein the biometric feature is at least  
2           one of an iris of an eye of the user, a facial feature of the user or a fingerprint of a finger of  
3           the user.

1           11.     A terminal for authenticating a user of the terminal, comprising:  
2                     an optical interface configured to receive light reflected from a biometric  
3 feature of the user;  
4                     an optical element optically coupled to said optical interface via an optical  
5 path, said optical element operable to form an image of the biometric feature from the  
6 reflected light and to direct the image onto an image sensor; and  
7                     a card interface configured to receive a biometric data card and operable to  
8 authenticate the user based on the image and to provide an authentication signal to the  
9 terminal.

1           12.     The terminal of Claim 11, wherein said card interface is operable to receive  
2 the authentication signal.

1           13.     The terminal of Claim 12, wherein said card interface includes a contact pad  
2 operable to form an electrical connection to the biometric data card, the authentication signal  
3 being received via the electrical connection.

1           14.     The terminal of Claim 12, wherein the card interface is further operable to  
2 receive a feedback signal from the biometric data card, the feedback signal providing  
3 adjustment information to the terminal for use in capturing an additional image of the  
4 biometric feature.

1           15.     The terminal of Claim 12, wherein the image sensor is part of the terminal,  
2 and wherein the card interface is further operable to transmit image data representing the  
3 image produced by the image sensor to the biometric data card.

1           16.     The terminal of Claim 12, wherein the image sensor is part of the biometric  
2 data card, and wherein said card interface is optically coupled to said optical interface and  
3 said optical element to direct the image onto the image sensor within the biometric data card.

1           17.     The terminal of Claim 11, further comprising:  
2                   a processor connected to receive the authentication signal and operable in  
3 response to the authentication signal to allow the terminal to interact with the user.

1           18.     The terminal of Claim 17, further comprising:  
2                   a user interface.

1           19.     The terminal of Claim 11, further comprising:  
2                   an illumination source disposed in relation to said optical interface to  
3 illuminate the biometric feature of the user.

1           20     The terminal of Claim 11, wherein said optical element includes a lens.

1           21.     The terminal of Claim 11, further comprising:  
2                   transfer optics located between said optical interface and said optical element  
3 to direct the reflected light to said optical element.

1           22.     The terminal of Claim 11, wherein the terminal is part of a cellular telephone,  
2 pay phone, credit card machine or identification terminal.

1           23.     A system for authenticating a user, comprising:

2                     a biometric data card including an image sensor for capturing an image of a  
3     biometric feature of the user and for producing first image data representing the image, said  
4     biometric data card operable to perform a comparison of the first image data with second  
5     image data, and, to generate, in response to the comparison, authentication information  
6     representative of an authentication of the user; and

7                     a terminal including a card interface configured to receive said biometric data  
8     card and operable to receive the authentication information from said biometric data card,  
9     said terminal further including an optical element arranged to direct light from the biometric  
10    feature onto the image sensor.

1           24.     The system of Claim 23, wherein said card interface includes a first contact  
2     pad operable to form an electrical connection to a second contact pad on the biometric data  
3     card, the authentication signal being transmitted from said biometric data card to said  
4     terminal via the electrical connection.

1           25.     The system of Claim 23, wherein the card interface is further operable to  
2     receive from the biometric data card adjustment information for use by said terminal in  
3     capturing an additional image of the biometric feature.

1           26.     A method for authenticating a user using a biometric data card, the method  
2     comprising:  
3                 producing in the biometric data card first biometric image data in response to  
4     an image of a biometric feature of the user;  
5                 comparing in said biometric data card the first biometric image data with  
6     second biometric image data; and  
7                 authenticating the user in response to said comparing.

1           27.     The method of Claim 26, further comprising:  
2                 transmitting an authentication signal from the biometric data card to a  
3     terminal; and  
4                 in response to the authentication signal, allowing the terminal to interact with  
5     the user.

1           28.     The method of Claim 27, further comprising:  
2                 determining adjustment information for use by the terminal in capturing an  
3     additional image of the biometric feature; and  
4                 transmitting the adjustment information from the biometric data card to the  
5     terminal.

1           29.     The method of Claim 27, wherein said producing includes capturing the image  
2     on an image sensor external to the biometric data card, and transmitting resulting image data  
3     to the biometric data card.

1           30.     The method of Claim 29, wherein:  
2                   said producing includes extracting first feature characteristics from the image  
3 data to produce the first biometric image data;  
4                   the second biometric image data includes second feature characteristics  
5 extracted from a previous image; and  
6                   said comparing includes comparing the first feature characteristics to the  
7 second feature characteristics.

1           31.     The method of Claim 27, wherein said producing includes capturing the image  
2 on an image sensor in the biometric data card.

1           32.     The method of Claim 26, wherein said producing further includes illuminating  
2 the biometric feature.

1           33.     The method of Claim 26, further comprising.  
2                   communicating with a remote server based on said authenticating.